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NEWS

Next Month-WOOD IN DESIGN

The sixth in a series of articles on Building Technology.

Architect Appointed To Planning Commission

Malcolm R. Stirton, vice president and a director of Harley, Ellington, Cowin and Stirton Inc., has been appointed to the new Wayne County Planning Commission.

The commission will coordinate planning for the county which includes Detroit and has a population of nearly 3,000,000 persons. Appointments were made by the Planning Commission of the Wayne County Board of Supervisors.

Mel Ravitz, chairman of the Board of Supervisors, said the Planning Commission's approval would be necessary on all large planning projects in the county before federal funds can be granted.

Stirton is the only architect on the Planning Commission and was appointed to represent the profession of architecture.

He has been associated with Harley, Ellington, Cowin and Stirton since 1936 and is in charge of the architectural projects division of the firm.

He is a member of the Michigan Society of Architects and serves on the civic design committee of the American Institute of Architects. He also is a member of the Mayor's Advisory Committee of Grosse Pointe Farms where he lives, the Engineering Society of Detroit, the Detroit Executives Association, the Central Business District Association of Detroit and the Economic Club of Detroit.

Arnold F. Malow Retires

Retirement of Arnold F. Malow from the positions of Board Chairman and Director of the Barton-Malow Company and Trustee of the Barton-Malow Foundation was announced re-

Malow, who had already disposed of all ownership interest in the company, was a founder and officer of the firm for forty years. His official retirement recognizes the conclusion of the company's previous arrangements with him.

Ben C. Maibach, Barton-Malow

president and director, expressed the Company's appreciation for Malow's long and faithful service which helped Barton-Malow grow into one of 50 top volume construction firms in the United States.

Malow has been a director of Michigan Mutual Liability Company since 1941. Long active in civic and charitable affairs, he is a member of the



Arnold F. Malow

United Foundation's Board, Detroit Area Council of the Boy Scouts of America, Junior Achievement Council, American Legion, Detroit Founders Society - Institute of Arts, and the Detroit Zoological Society.

He is a director of the Detroit Society for Crippled Children and Adults, a trustee of Children's Hospital and a patron of Valparaiso University and the Menninger Foundation.

Malow is a member of the Detroit Rotary Club, the Economic Club of Detroit, the Greater Detroit Board of Commerce and past director of the Detroit Athletic Club.

Realignment At AKA

Sol King, FAIA president of Albert Kahn Associated Architects and Engineers, has announced the following realignment of staff functions and responsibilities:

D. H. Shahan has been named Director of Structural and Civil Engineering, with T. C. Halliday as Administrator of the Department; A. Zweig has been appointed Chief Structural Engineer and F. Krarisch has been named Chief Civil Engineer. These changes reflect the expansion of the Structural Department's activities to encompass a greater scope of Civil

Engineering, including complete treatment of site development.

In addition to these appointments, King has announced the naming of A. Annala as Administrative Assistant to the supervisory staff of the firm's Architectural Department, its largest di-

Shahan is also Secretary of the firm, a member of its Board of Directors, and Director of Production. He is a graduate of Robert College, Istanbul, Turkey, and holds a Master of Science in Engineering degree from the University of Michigan. Messrs. Halliday, Zweig and Kramrisch were formerly assistant chief structural engineers. All are associates in the Kahn organization and are active in professional affairs. Halliday is a graduate of the University of Colorado, Zweig received his Master's Degree from the Saxonian Institute of Dresden, Germany, and Kramrisch obtained his Doctor of Engineering Degree from the Technical University of Vienna.

Use of "Hold Harmless" Clauses Restricted

Friday, July 1st, Governor Romney signed into law S. B. 1000. This bill, effective April 1, 1967, makes "hold harmless" clauses in construction contracts void and unenforceable where they would pass to a second party a liability which arises as a result of the sole negligence of the first party. The bill was jointly sponsored and followed in the Legislature by the Associated General Contractors and the Builders Exchange of Detroit and Michigan. At the official signing of the bill, the Builders Exchange was represented by Richard W. Brown, Vice-President and John D. Maas, Administrative Assistant. Representing the Associated General Contractors of America, Inc. were Leonard Patrick Cooley, President and William E. Stewart, Executive Secretary.

In the past few years, particularily industrial owners, have been making increasing use of "hold harmless" clauses in their contracts with contractors which require the contractor to hold the owner harmless from any liability even though the liability arises as a result of the sole negligence of the owner or his employees. Prime contractors have been forced to include similar clauses in contracts with their sub-contractors to protect themselves. Use of such a contract clause creates

an inequitable situation since the contractor (or sub-contractor if the clause was passed from the contractor to the sub-contractor) is forced to pick up a potential liability over which he has no control. To protect himself against this lability the contractor or subcontractor has been forced to purchase a broad coverage contractual liability insurance policy. This broad form coverage represents a premium increase of about 400% over the normal liability coverage. Just as important as the increased premium is the fact that this type coverage is experience rated creating a situation whereby the contractor's experience rate could increase as a result of an accident caused by the sole negligence of a party he has "held harmless".

As of April 1, 1967, S. B. 1000 will correct the inequitable use of "hold harmless" clauses. However, it does not ban the use of a clause in which the contractor holds the owner harmless from liabilities which arise as a result of an act of the contractor or contractors on the job.

Passage of this legislation is, to the best of our knowledge, one of the few instances of positive legislative action in behalf of the contractor by the industry. It is an indication that the industry can act in concert to correct some of its obvious deficiencies. Avenues are open through the Exchange, the A.G.C., and other industry associations to act, not only in the Legislature, but in the construction industry itself to take a more positive approach to the solution of its problems.

William C. Dennis Secretary-Manager

Registration Board Moves to New Office

Henry G. Groehn, Executive Secretary of the Michigan State Board of Registration of Architects, Professional Engineers and Land Surveyors. announced the location of their new offices in Detroit.

Under the Michigan Department of Licensing & Regulation, the State Board of Architects, Engineers and Surveyors, licenses and regulates the practice of architecture, professional engineering and land surveying.

Lenton G. Sculthorp, Director of the Department of Licensing and Regulation said, "With this new larger Detroit office, it is the Department's objective to give better service to both the public and the licensees.'

All inquiries should be directed to: Henry G. Groehn, Executive Secretary, Michigan State Board of Registration for Architects, Professional Engineers and Land Surveyors, 200 Lafayette Building, Detroit, Michigan 48226, or call: 222-6340.

Sanitary Engineers to Meet

The Sixtieth International Annual Meeting of The American Society of Sanitary Engineering will be sponsored by the Michigan Chapter, A.S.S.E,. headquartered at the Statler Hilton Hotel, Detroit, October 16-20, 1966.

Members of A.S.S.E. include municipal officers, plumbing inspectors, plumbing heating-mechanical contractors, manufacturers and suppliers; and also mechanical engineers in the United States, Canada, and other coun-

Gerald Remus, general manager of the City of Detroit Department of Water Supply, will be the main speaker at the opening session of the meeting. His main topic will be "Water Pollution Control".

The annual meeting will be prefaced by the famed sanitation and mechanical plumbing "refresher course" under the direction of Edward J. Zimmer, director of the City of Chicago Plumbing Testing Laboratory. There will also be approximately 40 product exhibits and booths.

General Chairman is Frank C. Richards, E. J. Anderson Company, Detroit. Co-Chairman is W. Wilbur White, former mechanical contractor in Detroit and past National President of A.S.S.E.

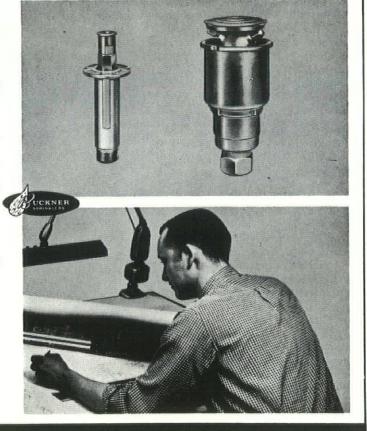
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Constantinis A. Doxiadis-Detroit Area Research Project-Phase B

Dr. Constantinis A. Doxiadis will make a public presentation of Phase B of The Developing Urban Detroit Area Research Project, at 5:00 p.m., Oct. 25, 1966 at the Engineering Society of Detroit, 100 Farnsworth,

The research project represents the cooperative efforts of The Detroit Edison Co., Wayne State University, Doxiadis Associates and the Athens Technological Institute. Phase B of the research program has focused on establishing alternatives for the future development of the Urban Detroit Area. Because of the importance of this work and its sigificance for the entire Southeastern Michigan area the Detroit Chapter AIA and the groups participating in the project are sponsoring Dr. Doxiadis' presentation for the interest of all those who are concerned with the growth of this vital urban area.

The presentation by Dr. Doxiadis of Phase B will focus on the advantages and disadvantages of selected alternatives for the growth of the Southeastern Michigan urban area. Phase A which was completed in the Fall of 1965 was a comprehensive survey of the Urban Detroit Area, an inventory of its resources, development and structure, socio-economic base and its role as a regional center. Phase C which will be completed in 1970 will develop in detail the types of expansion and development possible in the Southeastern Michigan

The 5:00 p.m. presentation will be followed by cocktails and dinner at 7:30 p.m. Tables for dinner for 8 persons at \$100.00 per table may be reserved by writing Ann Stacy, Detroit Chapter AIA, 28 West Adams, Detroit 48226. Reservations include reserved seats in the auditorium for Dr. Doxiadis presentation.

Macomb College Starts **Technology Complex**

Ground was broken for a \$3,000,000 industrial technology complex at Macomb County Community College in Warren, Michigan.

Two "C"-shaped buildings designed by Harley, Ellington, Cowin and Stirton, architects and engineers, will be constructed with a large courtyard between 45,000 square feet of floor space, much of it devoted to laboraories and drafting rooms but also including classrooms.

"A large portion of one building will be devoted to a 'space age machine shop'," said Paul B. Brown, project executive. The "space age machine shop" will include what Brown termed a super-clean room with carefully controlled temperature and humidity for research on close tolerances measurements of metals.

Other features of the building will be a computer-operated laboratory for metal machining and laboratories for research on electronics and minaturization, hot metal and plastic. A large part of the other building will contain drafting rooms.

The complex will be used by the Applied Sciences Division of the college, according to Dr. Robert E. Turner, college president. The new buildings will compliment the present campus architecture also designed by Harley, Ellington, Cowin and Stirton. The general construction contract has been awarded to the J. A. Ferguson Co. of Dearborn. Occupancy is scheduled for the fall of 1967.

Reynolds Named District PCA Engineer

Appointment of T. M. Reynolds, of Lansing, as Michigan District Engineer for the Portland Cement As sociation, effective July 1, has been announced by James D. Piper, senior vice president for promotion.

Reynolds will succeed R. H. Lochow who recently was appointed manager of the Association's new Allied Industries Department with headquarters in Chicago. Lochow had been Michigan District Engineer since 1964 after previous employment in a simlar ca-



T. M. Reynolds

pacity in New Jersey and Washington

Reynolds has been serving as field engineer supervisor in the Michigan District since 1960. He has been employed by the Portland Cement Association for more than 25 years, working earlier as office engineer, field engineer in the Lansing and Detroit areas, and statewide paving engineer.

As principal executive officer for the Portland Cement Association in Michigan, Reynolds will have offices at 900 Stoddard Building, Lansing.



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Steel Erection Completed at Village Plaza

With a ceremonial flourish the last piece of structural steel was hoisted into place for the \$10-million Village Plaza, a banking, office and retail center being constructed at Michigan and Outer Drive, Dearborn.

Present at the topping off ceremony were the key executives of Village Plaza, Inc., the developers; the architectural firm of Harley, Ellington, Cowin and Stirton, Inc., designers; A. Z. Shmina & Sons, general contractor; and Whitehead & Kales Co., steel erectors.

The Plaza when finished will include a 12-story office building, a threelevel retail shopping center and a fivelevel parking structure. There also will be out-of-sight rooftop and underground parking.

Principal tenant of the office tower will be the Bank of Dearborn, which will move its main office into the lower three floors of the building.

Robert J. Domke, AIA project administrator for Harley, Ellington, Cowin and Stirton, said a broad interior mall will provide entrance to the retail section of the Plaza. Four elevators, an escalator and a grand staircase will connect the levels. Many stores will have space on two or three floors. The retail area will contain 163,000 square feet of space, enough for 20 stores, and will connect with the high-rise building on three levels, giving the development unity and convenience.

Parking space for more than 1500 cars will be provided, largely in the parking structure. This building will be unusual, Domke said, because a continuous spiral ramp will connect the five parking levels which will be angled to create as much parking space as possible.

Exterior walls of the Plaza will be made of smooth precast concrete fabricated by Precast/Schokbeton Inc., of Kalamazoo using a recently-developed vibrating system to give greater strength to the panels.

Windows will be made of insulating glass encasing louvers, thus cutting down on heat penetration and eliminating the need for venetian blinds to control the light. The glass is being fabricated by Therma Louver Corp., Dearborn.



Architect's rendering shows how the Village Plaza in Dearborn will look when completed. The retail facilities are at left and the 12-story office tower at right. The five-level parking structure is behind the office tower.

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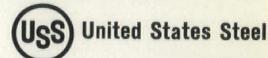
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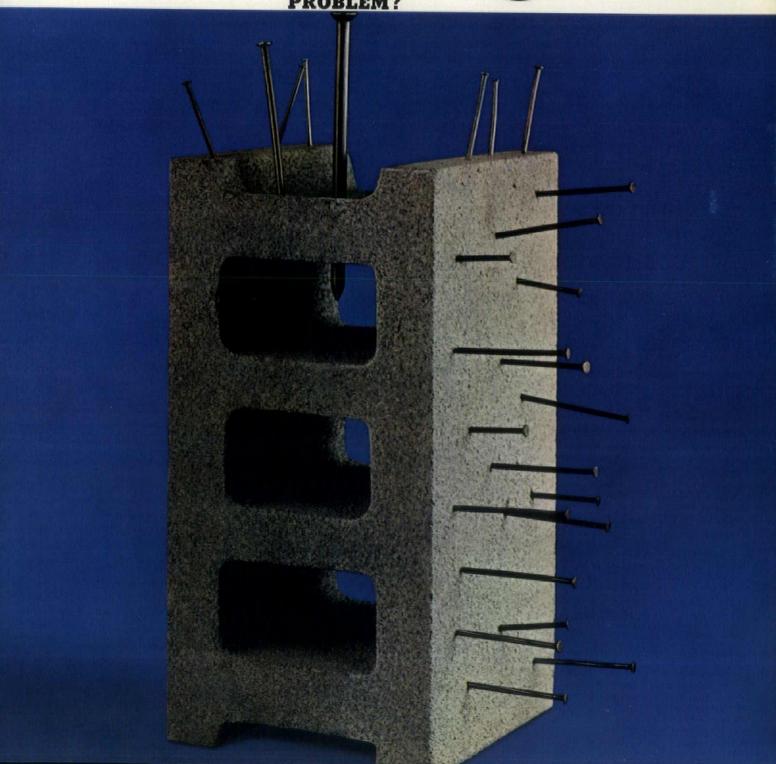
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EDITORIAL

THE NEW SLUM

Last year's Watts riot and the more recent Chicago riot are manifestations of the new slum. For any architect or planner who has been involved in slum clearance programs or in "renewal" work the depressing newspaper accounts of a riot on a hot summer's night should carry a special meaning. There are many social implications to the riots, which of course cannot be ignored, but it should be noted that these riots occurred in a physical environment quite different from those we have associated with rioting and social unrest in the past.

Watts is a suburban slum. A prime example of a new kind of slum-it is a community which has been effectively cut off from the rest of life. It suffers not from great densities of people, but from isolation, a problem which no existing slum clearance program can currently remedy. Ironically Prof. Richard Meier's* description of slum development and the slum of the future published in 1964,

describes Watts perfectly in 1965.

"At one time the violence and delinquency associated with recently urbanized components of the population was concentrated in the vicinity of densely settled slums. Now the worst of these slums has been cleared, and the poorest that remain are scheduled for demolition. A wide belt of communities, beginning several miles from the central business distrct, will remain to serve the population with low and irregular incomes. These neighborhoods contain small apartments, flats, and many single family dwellings, mostly built in the period preceding the middle 1920's. The density is such that automobiles will be needed in order to take advantage of the opportunities for work."

The only form of public transportation available to Watts is the bus. To get to one of L.A.'s employment centers on the bus (Downtown, Beverly Hills, Hollywood, Santa Monica) takes from one and a half to three and a half hours hours, at a cost of from \$1.00 to \$1.50 round trip with four or five transfers. There are no movie theaters in Watts nor is there an accredited hospital. About 2,000 new people move into Watts every month. Once in they find themselves impossibly trapped, with no

way out.

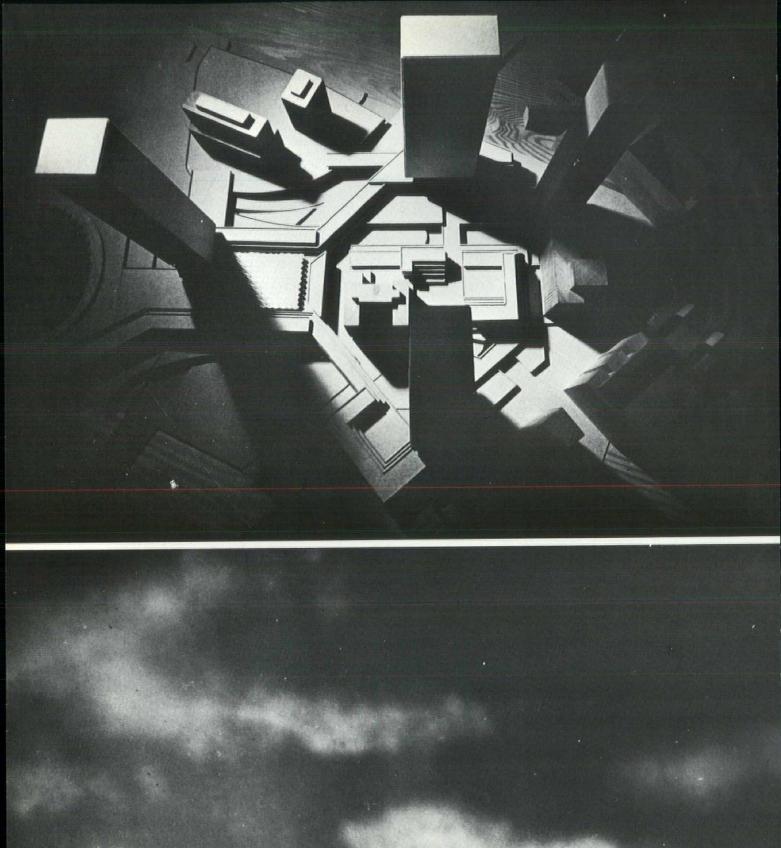
The new slum in Chicago is a slum of a different kind. You might have noticed photographs of policemen dueling with snipers who were shooting from the upper stories of a not so old high-rise apartment building. Only a few years ago this would have sounded like a westernized science fiction tale. But, it is not difficult to imagine the neighborhood in which the riot occured for there are hundreds of examples in renewal areas across the U.S. With a little more imagination you might think of yourself on the twelfth floor of a building that is not air conditioned on a day the temperature has reached into the upper 90's, struggling with a window that will not open because of its fourth rate construction. Downstairs children play in the asphalt playground which is tacky from the heat, and the police deny the usual slum privilege of playing in the water from the open fire hydrant-a privilege which was afforded children who lived in tenements when water was more plentiful. There are no swim-

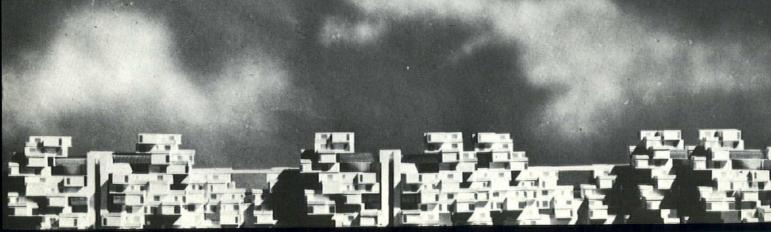
ming pools in this part of Chicago.

The standard argument is of course that these are poor people and they deserve nothing better. The difference between rich and poor we are told is measured in amenities. There is a lot about human nature we do not understand. Our knowledge of the effect of environment on man as a social being is shakey at best. There are however instances where other values have been placed on housing the poor. In Sheffield, England ,there is a government housing project whose residents are of the lowest economic segment of the British population. Sheffield is an industrial city as ugly as our ugliest. Yet these poor people receive as part of their rent, a location which is only 5 minutes walking distance from rapid rail transportation to major centers of employment, buildings which have been carefully orientated to the sun, playgrounds filled with imaginative equipment and shade trees, pubs (we call them bars) which are built into and are a part of the development and a shopping center three minutes from the farthest unit. Every morning at sunrise the corridors are swept clean and garbage is collected. The project is racially mixed. The housing is not luxurious, it does not even have a swimming pool as Mayor Daley has suggested for the Chicago neighborhood. But, it is reasonably well constructed of durable materials, it receives the maintenance housing of a high density requires, and it has been sensitively planned both socially and physically.

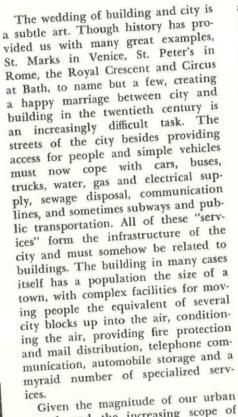
Human dignity is a precious thing. Once lost it is difficult to regain. Architecture and planning have something to do with human dignity. As long as we consider reasonably constructed and planned developments an unnecessary amenity for the poor we will have to spend our dollars on bigger police forces and higher insurance policies. Unfortunately it is impossible to put a price on a wasted life, or the effect of social unrest on future generations.

*Meier, Richard L., Proposals For Human Resource Development In The Detroit Area, Regional Development Studies IV Department of Conservation, School of Natural Resources, University of Michigan.





The Art Of The City



Given the magnitude of our urban growth and the increasing scope of our building projects it would seem unlikely that we could continue to think of our cities as being only an unrelated collection of buildings and streets. If we forsake our traditional attitudes about the physical form of the city what possibilities are open to us?

An exhibit which will soon be circulating throughout Michigan and the United States suggests some answers. Organized and assembled by Prof. Robert Lytle of the University of Michigan, Department of Architecture, the exhibit presents twenty projects which have forsaken the traditional attitudes which relate buildings to cities. The projects represent a very broad spectrum of spirited and im-

aginary approaches to contemporary problems of urban environment.

The large scale of the projects present construction solutions which are innovations in themselves. But more important is the fact that each project suggests what might be accomplished if the city were conceived as a single dynamic organism, with prime concern given to amenities provided to the user and the conservation of land area. No one has cornered the market on ideas. The exhibit presents projects that span nearly fifty years in time and includes examples from the United States, Canada, France, and Great Britain.

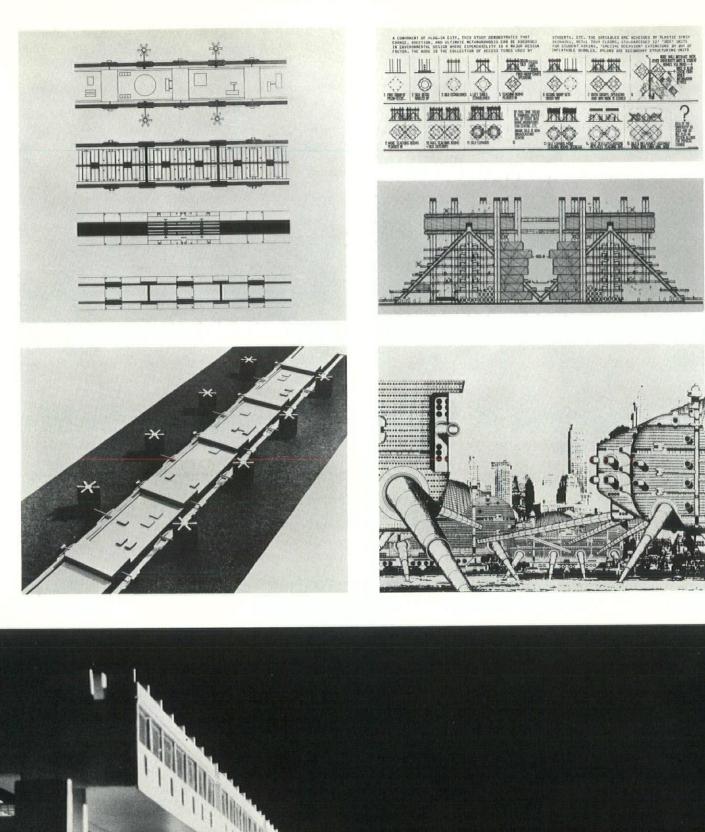
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1 "Pedestrian City" designed as a node for Pittsburgh by David Lewis has a centric organization intended to facilitate pedestrian movement.

2 "Habitat '67" designed by Moshe Safdie and David, Barott, Boulva may be viewed next year in Montreal when this permanent section of the "Expo '67" exhibition will be opened. A variety of living accomodations are provided within a closely knit system of circulation ways.

3 "Rockefeller Center" N. Y. designed by Reinhard and Hofmeister, Corbett, Harrison and MacMurray, Hood and Fouilhoux, still serves as an example which illustrates the advantages found in comprehensive planning of large scale areas within an already unbaninged section of a metropolis.







Not all of the projects in the exhibit are dreams. Rockefeller Center, conceived and built some forty years ago, remains today one of the finest examples of what urban life might become. Its sophisticated labyrinth of pedestrian passages, service courts and roadways is an obvious lesson of the advantages gained when conflicting activities are separated from each other. Its gardens and open spaces serve as a valuable reminder that a project can be big and still be human.

The town center of Cumbernauld, Scotland, which is now under construction borrows directly from concepts found in Rockefeller Center. This town center, for a city of 100,000 people is conceived as one building designed to grow as the need arises. A single structure incorporates parking, shops, housing, offices, banks, libraries and the other fixtures of a city while completely separating automobiles pedestrians, and services, and gives its lucky inhabitants fantastic glimpses into the lush Scottish countryside which surrounds the town.

Two other ideas from Great Britain present very imaginative visions of

highly mechanized cities, yet to be built. "Plug-in City" is a large tinkertoy set constantly rebuilding itself, a scheme for perpetual urban renewal. "Walking City" represents an answer to continuous urban sprawl and the problems of megalopolis. Walking City does just that, and on water, too.

"Mesa City," a theoretical proposal represents a completely different vision of urban environment as its sculptured forms subtly rise out of the desert of the Southwest United States. "Habitat '67" is a Canadian project currently under construction in Montreal for that city's Expo '67 exhibition.

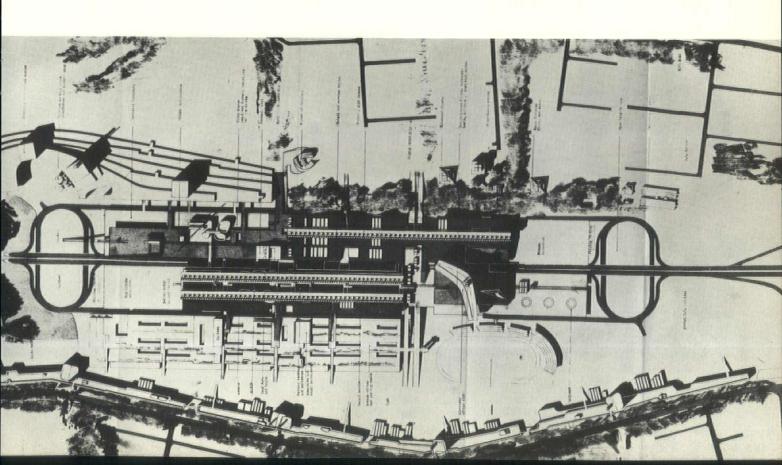
1A 2A 1B 2B 3 4A 4B 1 "Metro-Linear" designed by Reginald Malcolmson breaks away from the traditional centric planning solutions of past generations and suggests instead a dynamic system for urban expansion at a regional scale.

2 "Plug-in City" designed by Peter Cook is based upon a concept of rapid obsolescence. This particular design attempts to introduce change as a dynamic part of the life of the city.

3 "Walking City" designed by Ron

Herron presents us with a vision of a nomadic city which utilizes the independent life support systems developed by our space technology to free the city from a static life in a limited surrounding.

4 "Cumbernauld Town Center" Scotland presents a well integrated form for the many diverse activities of a town center. Automobiles enter directly into the center which is currently under construction a few miles outside of Glasgow.



"Habitat" develops a suburban scale by vertical clustering of units, giving its residents long views, outdoor living spaces, and the convenience of being able to walk to the drug store.

Yona Friedman's 'Paris Spatial" and the University of Michigan students' "3D Grid Motion City" present suggestions for the superimposition of new forms over old, providing completely new movement systems and spatial organizations.

"Metro-Linear" city designed by Reginald Malcolmson, and David Lewis' "Pedestrian City" for Pittsburgh appear as strongly contrasting opposites. The one suggests a continuous open ended organization while the other develops a centric, pedestrian orientated, structure.

The fact that a number of the projects have already been built or are being built is an encouraging sign. Changing tradition is a painful experience. The exhibit sugests that the agony might be worth the effort.

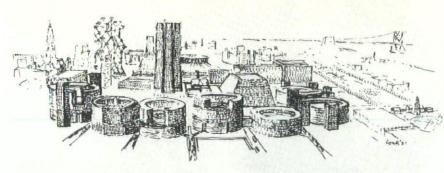
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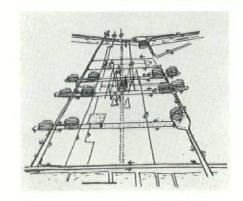
1 Louis Kahn's rich expression of urban forms and sensitivity to movement patterns are here uniquely expressed in a proposal for Philadelphia's Center City, which incorporates mamouth parking structures within the very core of the city.

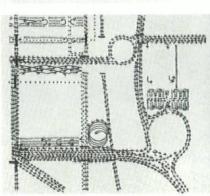
2 "Unite d'Habitation" a product of the imaginative thinking of Le Corbusier and P. Jeanneret has served as a prototype for many who have since explored the multiple uses of a given piece of land by sandwiching activities into a single integrated structure.

3 "Paris Spatial" is an idea presented by Yona Friedman for the renewal of Paris by the use of a space frame, allowing the activities of the city to continue as the city is expanded into the air rights above existing structures and streets.

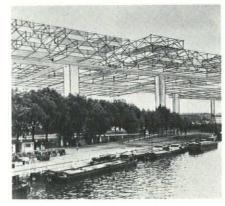
45"3D Grid Motion City" designed by Walter Brown, Peter Forbes and Dennis Holloway investigates the potential that exists in the three dimensional organization of movement systems for the development of highly concentrated urban facilities.

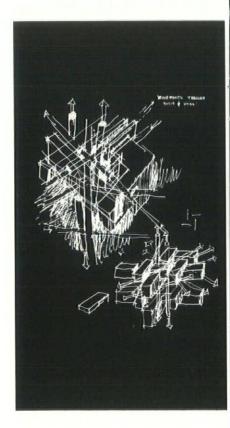


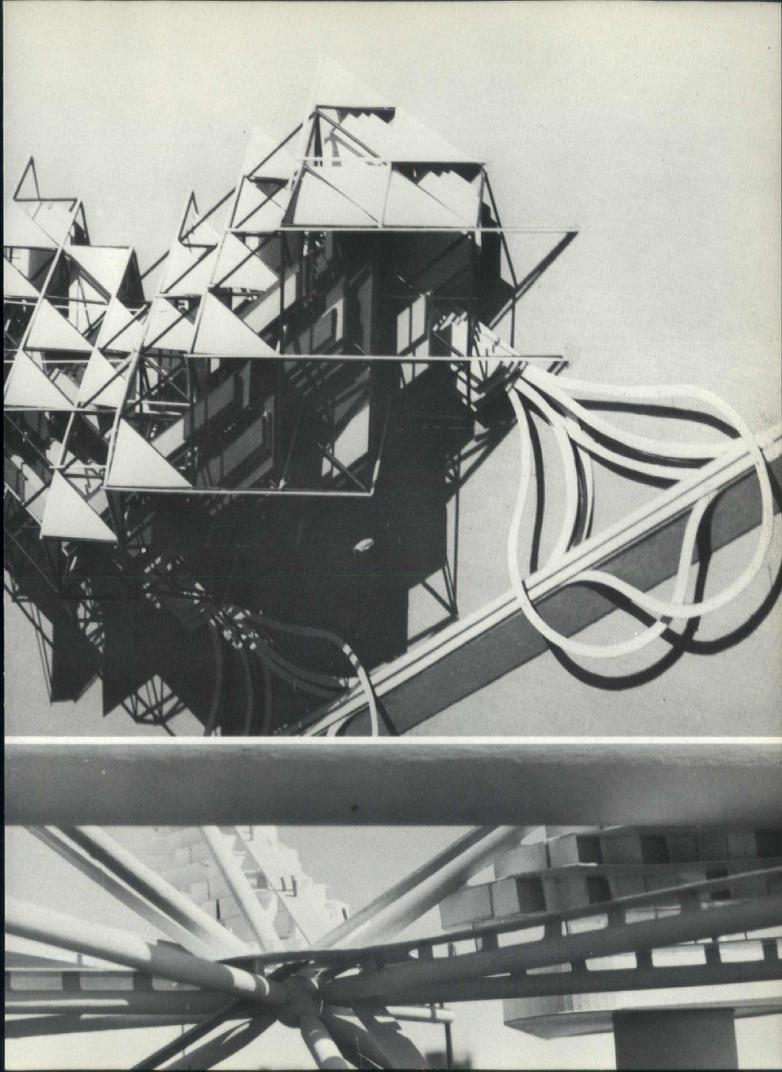












BRICK NEW DEVELOPMENTS

This article was prepared with the cooperation of the Structural Clay Products Institute, James R. Platt, Regional Director.

Sir Basil Spence, the noted British architect, has referred to brick as "the best prefabricated building material ever made." Brick has been used as a major building element for several thousand years by many civilizations. However, brick available today and the building techniques used with it are quite far removed from its historical counterparts.

As a prefabricated modular material brick provides a great deal of flexibility in choice of color, pattern, texture and form. With these advantages the brick industry in collaboration with imaginative architects and engineers throughout the country has been pioneering new uses and applications for brick construction which were unimagined only a few years ago.





Arches are being used more and more in todays architecture both on interiors and exteriors. Two examples in which arches are being used on interior work in an imaginative manner. Photo by Jack Sterling

COST

Economically bricks have long been recognized for their low "in the wall" cost. However, it has only been recently that the enormity of this economy has been recognized. This has been brought about through a change in the industry's selling procedure. Previously brick has been sold strictly on the basis of dollars per thousand. Many times these figures sounded high—yet when they were figured on the basis of cost per square foot in the wall even a so called high priced brick was found to be many dollars less in cost than other materials. For this reason the industry is now changing its selling procedures to show cost per square foot on brickwork.

A number of years ago a cost analysis was run on several popular wall systems. The study took into consideration fifteen separate items, including such factors as initial cost, maintenance, taxes, salvage value, heat loss and heat gain. The results of the study showed that the ultimate cost of a brick wall based in a fifty year period, was 171% to 398% less than some other less flexible and durable materials.

STRUCTURAL ANALYSIS

It is in the field of engineering and structure however that the most exciting strides have been taken with brick during the last few months. This has been accomplished with the Contemporary Brick Bearing Walls. In the past it has not been common practice in this country to base the design of brick masonry walls upon a structural analysis but rather to rely upon building codes for minimum wall thicknesses and maximum heights. These codes had a rational basis in the days when timber construction was used for floors: the brick walls should remain standing even if all the floors were removed, as by fire. Today such codes have little meaning when the entire building can be constructed of fire-resistive materials. The codes usually allowed a maximum compressive stress of 400 p.s.i. This stress is permitted on solid masonry of brick composed of type M mortar and 8,000 plus p.s.i. units.

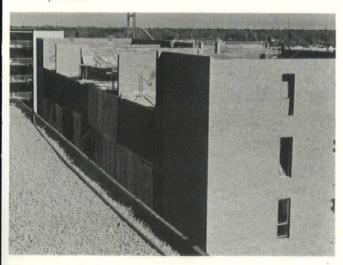
During the past year the Structural Clay Products Research Foundation (the research division of SCPI) has conducted a large scale testing program on brick from throughout the United States. These tests showed that the average brick had a compressive strength of over 10,000 p.s.i. while some had strengths of 25,000 p.s.i. This is particularly true of brick manufactured in this area of the country, as the finest quality brick in the world are produced in Ohio, Pennsylvania and West Virginia.

NEW RECOMMENDATIONS FOR BUILDING CODES

Using this test data, technical material and a review of recent applicable building codes published in Germany, Switzerland, England and Canada, the Structural Clay Products Institute staff and their Engineering Advisory Committee have prepared and published the "Recommended Building Code Requirements for Engineered Brick Masonry." This code is a complete standard of minimum requirements for the rational design and construction of brick masonry, both non-reinforced and reinforced. It includes definitions and requirements for materials, structural design and construction. It is written in such a form that it may be incorporated verbatim or adopted by reference within a general building code.

The Engineering Advisory Committee which worked diligently on the formation of this code included Stephenson B. Barnes, P.E., Los Angeles, California; Herbert E. Drake, Jr., C.E., Atlanta, Georgia; Werner Gottschalk, P.E., New York, New York; William J. LeMessurier, P.E., Boston, Massachusetts; P. T. Mikluchin, P.E., Tironto, Canada; and Douglas E. Parsons, P.E., Silver Spring, Maryland.

A number of the model building code organizations have approved revisions of their documents so that they now permit waivers of arbitrary requirements relating to lateral support and minimum thickness when rational design is used for bearing wall buildings. The 1964 edition of the Uniform Building Code contains a waiver in its section 2417 (B). In October 1964 the Southern Building Code Congress Research and Revision Committee approved a waiver that will apear in the new edition of the Southern Standard Building Code, sections 1404 and 1405. The Building Officials Conference of America recently approved allowable stresses for flexural tension and sheer in non-reinforced masonry which may be used in the rational design of such walls. The American Standard Building Code Requirements For Masonry is being revised and upon completion will contain a section for the rational design of load-bearing masonry walls.



A view of Park Mayfair East. 17-story load bearing building being constructed at Denver, Colorado. This photograph was taken from the building next door and shows construction at the 9th floor. Walls are up and ready for double T's. Grout is then poured and the bricklayer then starts over on the next floor in the same manner.

Bearing wall structures do not require new techniques of analysis and design, but merely the application of the same engineering principles used in the analysis and design of other structural systems. The method of analysis will depend on the complexity of the building with respect to height, shape, wall location and openings in the wall. However, a few conservative assumptions, accompanied, by the proper details to substantiate the assumptions, can result in a simplified and satisfactory solution for most bearing wall structures up to the 12-story range. More rigorous analysis for bearing wall structures beyond this height range may be required in order to maintain the economics of this type of construction.

THE ENGINEERED BEARING WALL

The general concept of the contemporary bearing wall structure is a combined action between the floor or roof system and the walls. The floor system carries both the vertical load and. acting as a diaphragm, lateral load to the wall for transfer to the foundation.

The floor system, therefore, becomes an extremely important part of the structural system. The designer must be assured that the floor system is capable of providing the diaphragm action necessary to transfer the lateral load in addition to the vertical, dead and live, loads to the supporting members.



This is an excellent example of some of the forms into which brick can be constructed including round walls, straight walls, pierced walls, and patterns created by protruded brick. Wayne University Nurses Home, Architects-Harley, Ellington & Day, AIA. Photo by Jack Sterling

The two basic types of bearing wall layout are the longitudinal bearing wall plan and the transverse or cross-bearing wall plan. For both layouts there is usually a requirement for shear walls which run perpendicular to the bearing walls. These would be non-loadbearing shear walls which, in combination with elevator shafts, etc., would resist the laterial loads perpendicular to the long demension of the bearing walls. Lateral loads parallel to the long dimension of the bearing walls would be resisted by the bearing

walls themselves which could then be considered loadbearing shear walls.

The effect of wind forces perpendicular to the exterior bearing wall is usually negligible, for in the lower stories the compressive stress is sufficient to suppress the tensile stress developed as the wall spans between floor slabs.



An imaginative example of the manner in which brick can be formed into patterns. Photo by Jack Sterling



8-story contemporary bearing wall apartment building in Canton, Ohio. Heritage House was completed for occupancy within 10 months. Architect-Lawrence-Dykes-Goodenberger & Assoc. Structural Engineer-R. M. Gensert & Associates

However, occassionally, in the upper stories of taller buildings where the walls are subject to higher wind loads and the axial loads are light, the recommended maximum allowable tensile stress of 36p.s.i. may be exceeded. If this does occur, it can be provided for by the selective location of reinforcing steel within the wall. When the wind force is parallel to the bearing walls and they act as loadbearing shear walls, the compressive stress is usually sufficient to

suppress the development of any tension.

The shear walls of the two basic types, however, are in most cases not controlled by shear. Very seldom does the shear stress approach the maximum allowable 50 p.s.i. The shear walls are usually controlled by stability against overturning or the development of tensile stress. If it is assumed that the shear walls are vertical columns of masonry which resist the overturning momtnt due to the wind by only their own dead weight, the shear walls can become very critical. It is therefore wise to provide a positive tie between shear walls and the bearing walls so advantage can be taken of the bearing wall loads in resisting overturning. The designer must exercise his judgment in assuming the distribution of the axial loads into the non-loadbearing shear walls.



East Hill Junior High School, completed in 1963, is designed to accommodate 750 students with provision for expansion to 1,000. Exterior walls are of face brick, glass, aluminum sash and precast concrete slabs. Interiors are brick and lightweight concrete block; in kitchen and toilet areas ceramic tile is used. Architects, Assoc. Inc. General contractor for East Hills was Bundy Construction Company; the face brick is Claycraft, Cranbrook. The ceramic tile is from the Mosaic Tile Company.

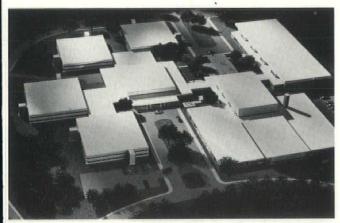
In the combined type of layout (tranverse and longitudinal bearing walls), this problem does not arise since all walls are loadbearing shear walls.

HIGH-RISE BRICK BEARING WALL STRUCTURES

During the past two years a number of Contemporary Brick Bearing Wall structures have been designed and built. Many more are on the drawing boards or in the process of construction.

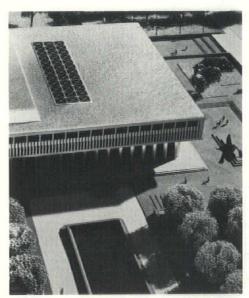
Pennley Park in Pittsburgh has probably received more publicity than any other project. Construction savings from using brick bearing walls were estimated at 10% of \$4.25 million project cost. This apartment group, consisting of eight structures ranging in height from four to ten stories, was scheduled for completion in twenty-one months but at the end of twelve months it was 98% complete.

Heritage House, an eight story apartment in Canton, Ohio was constructed with 12" brick walls. So as to stay within the code limitations and still keep the esthetic continuity of 12" walls from bottom to top, the first floor was constructed of reinforced brick masonry.



Alpena Senior High School, Alpena, Michigan, currently under construction, will accommodate 1,800 students and has been designed to permit expansion to accommodate 2,400. Extensive use of face brick both for interior and exterior portions is made to provide a feeling of warmth as well as strength and durability. Spence Brothers, Saginaw, Michigan, are general contractors; face brick is 'Claycraft', Cambridge; ceramic tile from the Romany Spartan Company; quarry tile from the Carlyle Company. Architects. Tarapata and MacMahon Assoc. Inc.

One of the most interesting buildings now under construction is Park Mayfair East in Denver, Colorado. This is a seventeen story with 11" brick bearing walls. To meet the Seismic Zone One section of the new Denver building code these walls were reinforced. In this, as in other buildings now built or under construction, sound reduction between apartments has been a tremendous bonus. Park Mayfair will have 130 apartments each separated by an 11" brick bearing wall. Sound resistance is 58 decibels, far above that of most apartment party walls.



General Motors Institute, Flint, Michigan, an engineering College, is undertaking the development of a new campus on a four acre tract. The design of the master plan, to accommodate growth through 1985 for some 2500 students situates the buildings around a campus green incorporating a lake. Both buildings, faced with red brick, will harmonize with buildings on the adjacent campus. The general contractor for General Motors Institute is The Christman Company, Flint, Michigan.

ERECTION PROCEDURES

Speed of erection is one of the prime assets of the Contemporary Bearing Wall concept. It allows all of the other trades to follow the bricklayer floor by floor. There is therefore no down time waiting for the building to be closed-in after the frame is erected.

The brick industry is vitally interested in this problem of speed of erection, recognizing that time means money to both owners and contractors. For this reason it has embarked upon an extensive research project on winter construction. New methods of enclosing buildings during the winter months are being studied as well as the use of new heating devices and other mechanical aids. Michigan has been a leader in winter construction and many of the ideas developed here are being incorporated into this project.

It might seem to the casual observer that any material as old in history as brick would be used decreasingly in todays building industry. The opposite case is true, however, as more brick are being used in more imaginative ways each year. Their use is limited only by the imagination of the men who design and work with them.

Yurk Wins Development Competition

A development plan by Gerald J. Yurk has been selected as the best in a competition sponsored by the Farmington Township Industrial Development Committee in co-operation with Lawrence Institute of Technology.

Senior architecture students at LIT were invited to submit plans for the approximately 700 acres of industrially zoned land bounded by Haggerty and Halstead roads, the I-96 expressway, and 9 1/2-Mile Road.

The plans were placed on exhibit and explained by the students who created them at a meeting of the Farmington Township Industrial Development Committee.

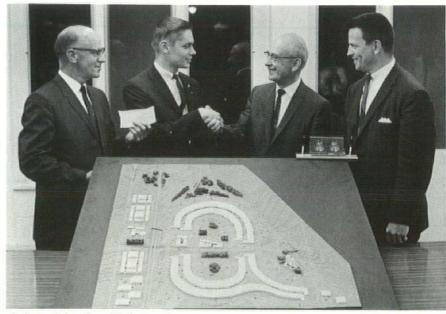
William W. Bowman, committee chairman, said they included many stimulating ideas which possibly could lead to new concepts in the industrial park. Bowman is executive vice president of Thompson-Brown Co., developers.

As winner of the competition, Yurk received a check for \$150 and a trophy donated by the developers.

Yurk, a senior this past year who now lives at 2801 S. Dort Highway in Flint, won numerous architectural prizes while an LIT student. He is now employed by T. Neil Eubank Associates, a Flint architectural firm.

Judges in the competition included Blowman; Dr. Earl W. Pellerin, director of the LIT School of Architecture; and George Zonars and R. Darrow Champlin, instructors at LIT.

On hand at the presentation ceremony were representatives of the Farmington Township Board, Planning Commission, Board of Appeals, Board of Commerce, and of Lawrence Tech



Left to right: Curt Hall, Farmington Township supervisor; Gerald J. Yurk, Lawrence Institute of Technology June graduate and winner of the competition; Dr. Earl Pellerin, FAIA director of the LIT School of Architecture; and William W. Bowman, executive vice president of Thompson-Brown Co.



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Giffels & Rossetti Named Number 1

In Engineering News-Record's second annual report on the nation's top 500 design firms, Giffels & Rossetti, Inc. of Detroit was ranked number one among the architects and engineers.

The report listed 454 architect and engineer firms and 46 design constructors, which were grouped separately.

Basis for the McGraw-Hill publication's evaluation was billings for the 65' calendar year.

Surveyed were over 5,500 organizations in selecting the top 500.

Friedman Opens New Office

Jack Friedman, AIA has opened bnew offices at 344 Hamilton Road in Birmingham, Michigan.

Friedman studied fine arts at the Chicago School of Design and Wayne State University. Prior to being awarded a Bachelor of Architecture degree from the University of Michigan, he served as a U. of M. student assistant, doing design research on the unistrut space frame and portable class room. Mr. Friedman served his apprenticeship with Louis G. Redstone.

A former lecturer at the University of Michigan Pontiac and Port Huron



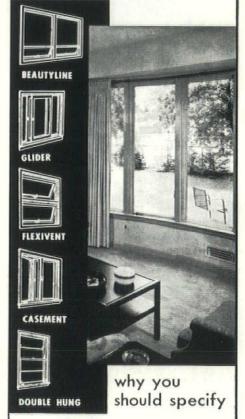
Jack Friedman

Extensions, Friedman also served as an instructor in structural engineering and industrialized construction at the University of Detroit.

As a designer and project architect for the firm of Wyeth and Harman, he gained wide experience in school, church industrial and hospital construction.

From 1959 to 1963, Friedman worked in association with a partner and in 1963 opened his own office at 373 south Telegraph. In addition to many associated credits, Friedman individually has designed Pontiac Medical Building; Bloomfield Country Day School, Lawyers Building, Bloomfield Township; Quality Iron Company facilities, Soble Office Building, Northland; Nazarene Church; district Center, Howell.

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Detroit-Area Ceramic Tile Figures Announced

Gino Rossetti, AIA, chief architectural designer of Giffells and Rossetti, world-wide architectural firm headquartered in Detroit, and John Lanzetta, of Michigan Tile and Marble Company, Chairman of the Ceramic Tile Promotion Fund, met recently to discuss last year's top ceramic tile installation figures.

In 1965, more than 8,400,000 square feet of glazed and unglazed ceramic and quarry tile was installed by Detroitarea contractors, an increase of 8 per cent over the previous year's figures.

Gino Rossetti expressed his endorsement of ceramic tile. "It's a traditional basic building material, but we are constantly amazed by ceramic tile's versatility. Ceramic tile has a remarkably wide selection of colors and textures and can be used in endless new architectural design applications."

The Ceramic Tile Promotion Fund is supported by Detroit-area Ceramic Tile Contractors who make contributions based on the number and activity of their employees.



Left, John Lanzetta, Chairman, Ceramic Tile Promotion Fund. Right, Gino Rossetti, Chief Architectural Designer, Giffells and Rossetti

Three Receive Roofing Award

Three contractors, prominent in Detroit roofing circles, were honored by their industry members at a recent dinner.

From left to right are: L.R. De-Ryckere, E. M. Ferber and D.D. Cochran, shown admiring the Distinguished Service Award certificates which were presented them by G. F. Steyer, Jr., Chairman of the Board of Trustees for the Roofing Industry Promotion Fund, Detroit.

These three became the first recipients of an award which will be presented to those who have rendered long and outstanding service to the builtup roofing industry.

DeRyckere, while President of Wallace Candler, Inc. is also President of the Southeastern Michigan Roofing Contractors Association and a Director on the State Board of the Michigan Roofing Contractors Association.

Ferber, presently manager of the Ann Arbor Roofing Company, was a Director on the National Roofing Contractors Association's Board and has just completed his eighth year as a Trustee of the R.I.P.F.

Cochran, long active in the industry, is presently Chairman of the Joint Board of the Security Benefit Trust Fund; a hospitalization and pension plan; as well as serving on the negotiations committee. He is employed by the Schreiber Corporation.



Left to right L. R. De Rychere, D. D. Cochran, E. M. Ferber, Geo. F. Steyer, Jr.

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Because it allows you to design and build better walls with more imagination, flexibility, and economy. The very fact that brick are small makes them one of the most flexible materials in existence. Brick walls can be angular, round, square, massive, intricate, elliptical, or lacy! They can be as straight as a shaft of light or follow a serpentine pattern resembling the path of a snake. They will be cold and sterile only when the designer so desires just as they will reflect his other design intentions of gaiety, reverence, warmth, stateliness or confidence as he desires. The size of a single unit of a building material is irrelevant...it is the cost of the entire wall that is important. Brick walls have proven savings of many many dollars per square foot in place... both initially and ultimately. This is why brick are small. When these reasons are no longer pertinent we will change... but until then we shall concentrate on the quality, strength and appearance of our present products so as to provide you with even more imaginative tools for your imaginative design.



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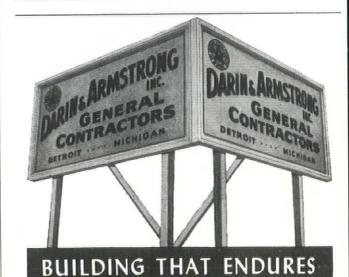
August	14	thru 18 AIP Conference, Hilton Hotel,	
O		Portland, Oregon.	
Sept.	14	Detroit Chapter Dinner Meeting - Walter	
		Ford, guest speaker.	
October	6		
October	25	Dr. Constantinos Doxiadis speaks at Engi-	
		neering Society of Detroit.	
Novembe	r 19	Allied Arts Festival-Detroit.	
1967			
April 12,		MSA 53rd Annual Convention-Civic Cen-	
13 & 14		ter, Lansing.	
April	13-15	Gulf States Regional Convention, Hot	
		Springs Arkansas.	
May .	10-12	Wisconsin Chapter, Lake Lawn Lodge,	
70		Delavan, Wisconsin.	
Sept.	8-10	New Jersey Society of Architects, Essex and	
		Sussex Hotel, Spring Lake, New Jersey.	

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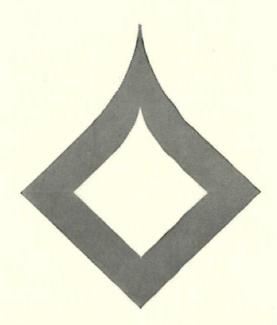
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